

Monochrome Electronic Imaging Eyepiece

#8635

Thank you for your purchase of an Orion Electronic Imaging Eyepiece. The electronic imaging eyepiece will give you an opportunity to record and share your astronomical viewing experiences. It can also be used for classroom or telescope demonstrations where not everyone can get to the telescope's eyepiece for viewing. These instructions will help you use the imaging eyepiece. Please read them thoroughly.

WARNING Do not aim your electronic imaging eyepiece at the sun without the use of a professionally made solar filter that completely covers the front of the telescope, or the CCD chip of the imaging eyepiece may be permanently damaged.



Figure 1. The monochrome electronic imaging eyepiece.

Installing the 9V Battery

Unscrew the battery cover (Figure 1) from the imaging eyepiece. Insert the included 9V battery into the battery holder with the terminals facing out. Attach the battery leads to the battery. Replace the battery cover.

Powering the Electronic Imaging Eyepiece with the Optional 12V Adapter

The video eyepiece can be used with the optional 12V DC adapter (#8638) available from Orion. Plug the adapter into the 12V jack on the body of the imaging eyepiece and into a 110-volt AC wall outlet or power supply.

Powering the Electronic Imaging Eyepiece with a Field Battery

The imaging eyepiece can also be powered with a field battery that is capable of powering 12V accessories. Orion sells a variety of field batteries that can be used to power the imaging eyepiece. This will require a DC adapter cable, which can also be purchased from Orion (#5613). Attach the appropriate attachment plug (O.D.=5.5mm, I.D.=2.1mm, or use the blue plug for #5613) to the DC cable to fit the imaging eyepiece's 12V power jack. The power jack is tip positive, so attach your DC cable plug accordingly. Insert the cable into the imaging eyepiece's power jack. Then insert the other end of the cable to the DC outlet of the field battery.

Connecting to a TV or VCR

Plug one end of the RCA cable (Figure 1) into the output jack of the eyepiece. Then plug the other end of the RCA cable into the "VIDEO IN" jack on your television or VCR. Consult your TV or VCR's manual for the location and operation of this jack.

Operating the Electronic Imaging Eyepiece

For simplest operation, aim and focus the telescope at the object you wish to view using a regular telescope eyepiece. Make certain that the object is centered in the eyepiece. Remove the regular eyepiece from the telescope. Take the dust cap off of the electronic imaging eyepiece and insert the barrel of the electronic imaging eyepiece into the telescope's focuser or diagonal.

If you wish to use the imaging eyepiece with telescopes that require .965" eyepieces, unthread the 1.25" barrel and use the .965" barrel underneath.

Turn the ON/OFF contrast wheel clockwise until you hear a click. The green LED light should shine indicating that the power is on. Focus the image on the TV by using the telescope's focusing mechanism. If the imaging eyepiece does not reach focus, you may need to use an optional 1.25" extension tube.

Using the Contrast Wheel

The camera in the electronic imaging eyepiece has a manual contrast adjustment; contrast is increased as you turn the contrast wheel (Figure 1) clockwise. In general, one needs more contrast in darker conditions. Experiment with various positions of the contrast wheel to find the best image.

Using the Optional Focal Reducer

You may find that you wish to have a wider field of view when using your electronic imaging eyepiece. For this we recommend using the optional focal reducer (1.6x).

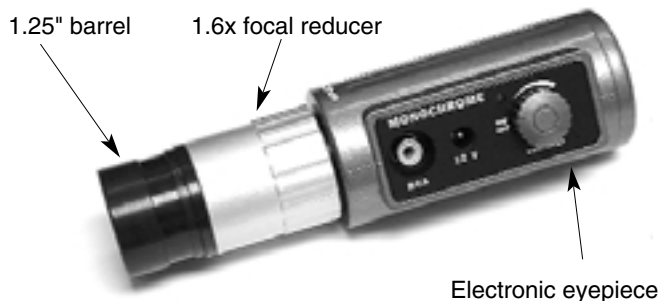


Figure 2. The monochrome electronic imaging eyepiece with optional focal reducer installed.

To use the focal reducer, unthread the 1.25" barrel on the video eyepiece. Thread the focal reducer onto the video eyepiece. Then thread the 1.25" barrel onto the end of the focal reducer (Figure 2), unless you wish to use the video eyepiece in a .965" eyepiece holder.

What to Expect

For almost all types of telescopes, the Moon and Sun (with a professionally made full-aperture solar filter) and terrestrial views can be viewed and recorded with the electronic imaging eyepiece. For telescopes of extremely long focal length (2000mm or more), the bright planets can be imaged with some detail. With very large aperture telescopes (12.5" or more) imaging of bright star clusters may be possible.

Specifications

CCD Camera size: 3.2mm x 2.5mm

Pixel Count: 320x240

Power Source: 9-volt battery, optional 110VAC-12VDC adapter

Power draw: 70mW

Frames/second: 60

Sensitivity: 1.5 lux

Video output: RCA jack, 6' long RCA cable supplied

Contrast adjustment: Continuous thumbwheel

Weight (w/o battery): 3.2 ounces

Optional power source: 110-VAC to 12-VDC with optional adapter

Optional focal reducer: 1.6x reduction, fully coated

One-Year Limited Warranty

This Orion Electronic Monochrome Imaging Eyepiece is warranted against defects in materials or workmanship for a period of one year from the date of purchase. This warranty is for the benefit of the original retail purchaser only. During this warranty period Orion Telescopes & Binoculars will repair or replace, at Orion's option, any warranted instrument that proves to be defective, provided it is returned postage paid to: Orion Warranty Repair, 89 Hangar Way, Watsonville, CA 95076. If the product is not registered, proof of purchase (such as a copy of the original invoice) is required.

This warranty does not apply if, in Orion's judgment, the instrument has been abused, mishandled, or modified, nor does it apply to normal wear and tear. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state. For further warranty service information, contact: Customer Service Department, Orion Telescopes & Binoculars, P. O. Box 1815, Santa Cruz, CA 95061; (800) 676-1343.